A STUDY OF VARIOUS DEGREES OF HAEMORRHOIDS AND THEIR MANAGEMENT-SCLEROTHERAPY, BANDING AND HAEMORRHOIDECTOMY

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BONAFIDE CERTIFICATE

This is to certify that the dissertation entitled **"A STUDY OF VARIOUS DEGREES OF HAEMORRHOIDS AND THEIR MANAGEMENT-SCLEROTHERAPY, BANDING AND HAEMORRHOIDECTOMY "** is bonafide record work done by **Dr. N. THACHINAMOORTHY** under my direct supervision and guidance, submitted to the Tamil Nadu Dr. M.G.R. Medical University in partial fulfillment of University regulation for M.S. General Surgery, Branch I.

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I **Dr. N. THACHINAMOORTHY** solemnly declare that the dissertation titled **"A STUDY OF VARIOUS DEGREES OF HAEMORRHOIDS AND THEIR MANAGEMENT - SCLERO THERAPY, BANDING AND HAEMORRHOIDECTOMY"** has been prepared by me. I also declare that this bonafide work or a part of this work was not submitted by me or any other for any award, degree, diploma to any other University board either in India or abroad.

This is submitted to The Tamilnadu Dr. M. G. R. Medical University, Chennai in partial fulfillment of the rules and regulation for the award of M.S.(General Surgery) Branch – I to be held in March 2008.

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CONTENTS

INTRODUCTION

A large proportion of World's population are troubled by haemorrhoids, related perhaps, to the inconsistency of the Human Diet and to the social obligations demanded by civilization.

The dietary habits and fibre intake has some influence in the haemorrhoidal formation.

The term haemorrhoid is derived from Greek meaning bleeding (**Haema–Blood ; Rhoos–flow**). The emphasizes the most prominent symptom in the majority of cases. The term piles **(Latin–Pila, "a ball")** emphasizes the Haemorrhoidal swellings.

Haemorrhoids have been treated by many modalities. Earlier days insertion of suppositories, application of Leeches.

Surgery has also been practiced from the earliest time. Hippo crates recommended surgery in his writings.

All patients of Haemorrhoids cannot be treated with only one procedure. Each of them to be evaluated currently, clinical findings, proctoscopic and sigmoidoscopic examinations.

In this study, we are comparing scelero therapy rubber band ligation and closed haemorrhoidectomy for haemorrhoids.

AIM OF THE STUDY

In our study, the various presentation of haemorrhoids their treatment and complications of various modalities of treatment for haemorrhoids. (Scelero therapy, Rubber band Ligation / Open haemorrhoidectomy) for our people.

- To study the age incidence of haemorrhoids
- To study the sex ratio of haemorrhoids
- To analyse the clinical presentation of haemorrhoids
- To analyse the suitable methods of treatment for haemorrhoids.

Techniques :

1. Injection treatment (sclero therapy)
2. Rubber band ligations
3. Closed haemorrhoidectomy

REVIEW OF LITERATURE

Anal Canal Anatomy :

The Distal most portion of the alimentay canal extends for a distance of about 4cm from the Anorectal ring to the hairy skin of anal verge.

Its lining and musculature together with the pelvic floor structures contribute significantly to the regulation of defeation and continence. Its borders include the coccyx posteriorly, ischiorectal fossa and its contents bilaterally, perineal body and vagina in women and urethra in men anteriorly.

The epithelium that lines the anal canal differs at various levels. The Dentate line made up of anal valves anatomically demarkates the cranial pleated mucosa from the caudal smooth anoderm mucosa. The proximal mucosa is corrugated into a series of 12-14 columns of Morgagni with corresponding crypts between each fold.

Proximal to dentate line the mucosa is pinkish lined by columnar epithelium. Distally lined by squamous epithelium and devoid of hair and glands.

The change between two types of epithelium is the transititional zone lies proxima to dentate line is purplish in colour consists of layer of cuboidal cells interspersed with tongues of columnar epithelium.

Anal Canal musculature :

It can be considered as two tubular structures overlying each other. The inner part is the smooth circular layer of the rectum forming the internal sphincter that ends 1.5 cm below the Dentate line.

The outer component is a continuous sheet of striated muscle constituting the pelvic floor which comprises the levator ani muscle, the puborectalis muscle and the external sphincter. The external sphincter is divided into subcutaneous, superficial and deep portions.

The internal sphincter, which is innervated by the autonomic nervous system is independent of voluntary control, where as the external sphincter is supplied by the Inferior rectal branch of internal pudendal nerve and the perineal branch of the fourth sacral nerve is under voluntary control.

Blood Supply :

From inferior haemorrhoidal artery which is a branch of the anterior portion of internal iliac artery.

Venous Drainage :

The anal veins are distributed in similar fashion to the arterial supply. The superior and middle haemorrhoidal veins → superior rectal vein → inferior mesenteric vein → portal system.

Inferior haemorrhoidal veins drain the lower half of the anal canal → join the external iliac vein on each side.

Lymphatic Drainage :

Lymph from the upper half of the anal canal flows upwards to drain into the postrectal lymphnodes and through inferior mesenteric chain into the para-aortic nodes. Lymph from the lower half of the anal canal drains on each side first into the superficial and then into the deep inguinal group of lymphnodes.

Physiology of the Anal Canal:

The physiology of the anal canal is highly complex mechanism which under normal situations allows the individual to control the retention and evacuation of gaseous, Liquid and solid fecal matter. When fecal material enter the rectum there are three phases.

1. Accommodation :

Where the rectum slowly expands but both the internal and external sphincter retain their tone.

2. Sampling :

Rectal contents come in contact with the sensory lining of the anal canal after temporary relaxation of the internal sphincter.

3. Defecation :

Although this is under voluntary control to a certain extent. When the volume of rectal contents reaches a critical point the urge to defecate becomes over powering and the tone in the external sphincter is inhibited.

The tone of the internal sphincter at rest is about 90 cm of water. This is called the **Resting Pressure**.

Squeeze Pressure is generated by the contraction of the external anal sphincter and puborectalis muscle, more than doubles the intra anal canal Resting Pressure.

The anorectal angle measuring about 80 degree is produced by the anterior pull of the puborectalis muscle. Maneuvers that sharpen this angle augument continence were as those that straighten it favour defecation.

Examination of the Anus :

A good couch, good light in mandatory. The Sims (left lateral) or the lithotomy position is satisfactory. Lithotomy position is less convenient for an elderly patient and can cause social embrassment to a young women. Protective glove should be worn.

Inspection :

With the buttocks opened the anal canal is inspected. Note is made of any lesions e.g inflammatory skin changes, Piles, fissures (sentinel pile) or fistula. The patient is asked to strain down before inspection is concluded.

Digital Rectal Examination :

A good lubricant is necessary neither to little not too much. Extreme gentleness is the rule so that pain is not caused.

Painful spasm of the anal sphincter is confirmation of a anal fissure if the history is suggestive.

The examination should check the normal as well as the abnormal structures.

Protoscopy :

It can be done in the Sims or Lithotomy portion. Proctoscope has an obturator and a sheath, Good lubricant is necessary. The lower third of the rectum the anorectal junction and the anal canal can be inspected as the instrument is withdrawn slowly. The patient should be asked to strain during withdrawl. As by so doing an internal intussusceptions may be made visible.

Sigmoidoscopy :

In an elderly patient, the sigmoidoscopy is done to rule out secondary haemorrhoids. It is an examination of the rectum and lower sigmoid colon. Both the rigid and flexible scopes are used for the same.

Anatomical Aspects :

Haemorrhoid is a condition of dilatation of the internal venous plexus within an enlarged displaced anal cushion.

Anal cushions are normal structures that have a rich arterial supply leading directly into distensible venous spaces. They help to seal the upper anal canal and contribute to continence of flatus.

Constipation and straining disrupt the supporting frame work of the cushions, causing them to become displaced and congested. In some patients this is aggravated by tight internal sphincter, which leads to increased intra anal pressure during defecation.

Functions of Anal cushions :

Closure of the Anus is mainly an activity of the muscles and nerves of the pelvic floor. However, a fine tuning mechanism exists to close the final millimeter. The haemorrhoids bulge to effect this closure by rapid filling of veins. These haemorrhoidal veins are directly served by an arterial shunt, which can rapidly fill them under pressure. Arterial and venous pressure is evidenced by the squirting of bright red blood, form prolapsing haemorrhoids when the

sphincter is relaxed. The sphincter normally keeps these veins tamponaded, when the sphincter is closed as the basal pressure is exerted by the sphincter muscle.

Classification of Haemorrhoids :

Haemorrhoids may be external or internal to anal orifice.

Internal Haemorrhoid :

Commences in the upper 2/3 of the anal canal which is lined by columnar epithelium.

External Haemorrhoid :

Arise in the squamous epithelium lined lower 1/3rd of anal canal or at the anal orifice itself.

Interno External Haemorrhoids :

When the above two varieties are associated, they are known as Interno External Haemorrhoids. Because of the communications between the Internal and External plexuses, if the former become engorged, the later is liable to become involved.

Pathological Anatomy :

Haemorrhoids are swelling covered with Mucosa which bulge into the Lumen of the canal and lower centimeter or so of the rectum and which contains varicose venous plexuses, (sub mucosal or Internal haemorrhoidal plexus) which are mainly radicles of superior rectal (haemorrhoidal) veins.

The submucosal haemorrhoidal plexus of the superior rectal vein is involved as a main content and the contents of the haemorrhoid also include a small branch of superior rectal artery plus areolar tissue.

Aetiology :

From the aetiological point of view internal haemorrhoids may be divided into two main categories.

1. With a definite organic obstruction to the venous return from the superior haemorrhoidal veins

   a. Abdominal tumours, pregnancy

      In pregnancy with increased pelvic vasculature, laxity of tissue and increased venous congestion from the fetal pressure, haemorrhoids are common

b. Cirrhosis of Liver

c. Constipation

d. Carcinoma of the middle 1/3 of rectum – congestion of the superior haemorrhoidal vein may occur a feature of an encircling of mid rectum.

2. Idiopathic haemorrhoids where no evidence of organic venous obstruction is present.

Number and position of Internal haemorrhoids :

Three main haemorrhoids are situated as Right anterior, Right posterior, Left lateral at 11, 7, 3, 'O' clock positions. Additional haemorrhoids may be present between them main piles. The arrangement of piles was due to the difference in the termination of the right and the left main branches of the superior rectal artery, the left branch continuing essentially as a single vessel, whilst the right branch splits into an anterior and a posterior branch ; consequently when the associated radicles of the superior rectal vein become varicose, two sets of haemorrhoids from on the right side and only on the left side.

Parts of the Haemorrhoids :

Each principal haemorrhoids can be divided into three parts.

PEDICLE :

is situate at the ano rectal ring. As seen through a proctoscope, it is covered with pale pink mucosa.

INTERNAL HAEMORRHOID :

commences just below the ano rectal ring. It is bright red colour and covered by mucous membrane.

EXTERNAL HAEMORRHOID :

lies between the dentate line and the anal margin. It is covered by skin.

Degrees of Haemorrhoid Formation :

I Degree : Only bleeding present. Cushion do not descend below the dentate line on straining

II Degree : Mass can be seen at the exterior on straining and disappears after straining.

III Degree : Man descends the exterior on straining and remain outside until they are digitally replaced into the anal canal where they remain until the next act of straining.

IV Degree : Mucosa covered internal cushions that are permanently outside the anal verge and return at once outside when they are replaced.

Clinical Presentation :

There are two cardinal features of haemorrhoids – Bleeding and prolapse. Pain is not usually the symptom, however the h/o minimal pain was elicited.

Bleeding :

This is usually the first symptom and occurs initially as a slight streak of blood on the motion or toilet paper, especially when the patient is constipated. At this stage, it can easily be avoided by securing regular bowel habits. Some times patient may suffer severe haemorrhages emphasized the blood leak from piles is Bright Red in colour therefore it is arterial rather than venous.

Prolapse :

As a rule, onset of prolapse is late in haemorrhoids. It occurs initially during defaecation, the pile appears at the anal orifice at the height of expulsive effect and slip back immediately afterwards. Later, the pile lead into a prolapsed portion after the motion and patient finds it to replace them digitally. Later, the prolapse is permanently prolapsed and contact with undergarments.

Discharge :

A mucoid discharge from the rectum can occur in any case with prolapsing piles. But it is more severe in piles, that is permanently prolapsed. Soiling of undergarments becomes a trouble some symptom.

Anal Irritation :

Irritation of the perianal region, due to its becoming moist and sodden from discharge is almost accompaniment of III degree haemorrhoids.

Symptoms of secondary anaemia :

It is important to remember that bleeding from Haemorrhoids can be a cause of secondary Anaemia. In addition to the local symptoms, patient may compliant of Breathlessness, dizziness, Lethargy and pallor due to anaemia.

Management :

Various modalities of treatments are available with Medical and Surgical Management. Here the Medical Management was not taken for this study. The surgical management was divided into Non – surgical and surgical management.

Non-surgical methods :

1. Injection treatment (Sclerotherapy)
2. Rubber band ligation
3. Manual Dilatation
4. Cryotherapy
5. Infra Red coagulation

Surgical Methods :

1. Milligan - Morgan Open haemorrhoidectomy
2. Closed haemorrhoidectomy – Fergusen
3. Stapler haemorrhoidectomy

Non-Surgical methods :

A. Injection Treatment (Sclerotherapy)

The first person to practice injection of Haemorrhoids was Morgan of Dublin, who treated the piles with an injection of per sulphate of Iron.

Mitchell of illinios treated piles with an injection consists one part carbolic acid and two parts olive oil.

The object of injection treatment for piles is quite different from that of similar treatment for Varicose veins of the lower-limbs. In the treatment of Varicose veins by injections, the aim is to damage the intima and produce Intravascular thrombosis.

No such effect is sought with Injection for Haemorrhoids. One reason for this is that is extremely difficult to inject into the veins of a haemorrhoid. Even with a vigorous thrust of the needle into the

centre of the pile, the point usually ends up between the veins, not in their lumen. In practice the injection is given into the submucous areolar tissue, in which the haemorrhoidal veins lie and the effect of the Irritant solution is to produce an inflammatory reaction.

Histological Features :

After 24 hrs of the injection, there was a marked edema of the perivenous tissues, with infiltration by leucocytes, RBCs and many large mono nuclear cells often arranged as clusters round the vessels.

Proliferation of Fibroblasts increased following the successive days. At this stage, there was no thrombosis of the vessels, but clotting became increasingly evident after the 5^{th} day. (when also there was an increase in the fibrous elements of the submucosa).

Rubber band Ligation :

This procedure was developed by Barron.

The principle of the method is to apply a rubber ring ligature through a proctoscope to the mucosal covered part of the Internal

pile. Over a period of seven to ten days, this elastic band gradually cuts through the tissues and the pile sloughs off spontaneously.

An assistant is required to hold the proctoscope, while the surgeon is holding the tissue forceps and ligator. To obviate this, two recent instrumental innovations designed. One is the **Van Hoorn ligating proctoscope**, which is capable of applying the Rubber band to the pile, without the need to introduce a separate ligator. Since the diameter of the proctoscope is largest compared to the applicator, proctoscope functions as the drum of the ligator larger amount of tissue is included in the rubber band. Dia of the distal end 1.8 cm. conventional ligator 1.1cm. Surgeon can perform a ligation without an assistant.

Disadvantage :

Little tougher. Uncomfortable to the patient.

The other new device is the Thompson modification of the conventional Barron ligator. No anaesthetic is required for RBL. Virtually it is a painless procedure. More than one pile mass can be dealt at the same time.

Next procedure done after an interval of three weeks or so.

Disadvantage :

Skin covered component is not dealt with

Secondary haemorrhage can occur.

Cryotherapy :

The application of liquid nitrogen. The extreme cold (-196^{o}C) of the application caused coagulation necrosis of the piles which subsequently separated and fall off. Early results were encouraging. The technique often caused troublesome mucous discharge and pain.

Infra Red coagulation (IRC)

The infra red coagulation was developed by Nath et al for coagulating bleeding points and was adopted to the effective treatment of haemorrhoids by Neiger.

It is used for haemorrhoids that do not prolapse. It is an effective and painless method.

Surgical Methods :

1. Closed haemorhoidectomy
2. Open haemorrhoidectomy
3. Stappler haemorrhoidectomy

MATERIALS AND METHODS

Injection Treatment : (Sclerotherapy)

In selection of cases for sclerotherapy, the most important consideration is the degree of haemorrhoids.

1. For cases of first degree haemorrhoids, Injection treatment is suitable and give cure and long term freedom from symptoms.
2. Most second degree haemorrhoid should be carefully selected. For small haemorrhoids the result are good. Larger haemorrhoid the results are poor.
3. Third degree haemorrhoids cannot be cured by Injection treatment.

Reasons for rejecting the cases :

1. Injection into the cutaneous covered part will be the most painful one. So, the external piles or the lower skin covered components of large internal piles must never be injected.

2. Injections may be contra indicated in some associated anal lesion. The most frequent associated anal lesion is Anal fissure with presence of fissure, the Injection treatment is very painful.
3. In piles complicated, venous thrombosis
4. After the patient had number of injections, the sub mucosa becomes so much fibrosed that will not admit further injections.
5. Patients presenting with colitis or Crohn's disease rejected. Injection therapy might provide an Exacerbation of the colitis.

Practical details of Injection therapy :

The Albright methods of High Injection into the sub mucosa just above the anorectal ring.

Instruments Used :

1. Proctoscope
2. 5 ml disposable syringe with long needle

Solution :

5% solution of phenol in gingly oil is used. Total amount of solution used in average about 12-15 ml.

The technique of Injection :

Injection treatment an outpatient procedure. It requires no special preparation of the patient or the bowel and can be carried out even when the rectum is loaded.

The proctoscope is introduced. The anorectal ring is identified. This is easily identified by the projection of puborectalis posteriorly.

The next day step is to bring the proposed site of injection at or just above the AR ring clearly into view. To do this, proctoscope is brought to bear more directly on the bowel wall in the appropriate quadrant. The mucosa at the risk of injection is swabbed clear with a pledget of cotton wool and then the needle is inserted obliquely through the mucosa. Withdraw it gradually, judging the position of the point of the needle and the mucosal surface.

During the withdrawl, a very small amount of fluid is injected cautiously and the reaction is noted. If the mucosa immediately balloons up in an edematous wheal with vessels, so called **“striation**

sign" the surgeon knows that the fluid is spreading in the sub mucous plane. If no wheal is produced, the Injection needle might be placed too deeply.

On withdrawl of the needle there is sometimes a little bleeding and escape of the 5% phenol solution from the puncture of the mucosa. But this invariably stops on its own accord. Very occasionally, it is necessary to touch the bleeding point with a stick of silver nitrate to arrest bleeding.

The onset of fluid to be injected at each site will depend upon the submucosa, but will not be less than 3-5 ml in a new case. In patients who have had previous injections, the submucosa has become so much fibrosed that it will accept only small amount of fluid. So, we have to seek more effect with the first set of injections and to make these as large as possible.

As a rule no special treatment is required after the injections. Patient may go to their normal activities, but for mild discomfort in the anal region / Rectum that evening. After each defaecation for a few days, the patient should take particular care to replace any prolapsing piles.

IMMEDIATE EFFECTS OF INJECTIONS :

A. Pain and discomfort during the Injection :

High injections for haemorrhoids are quite pain less. Usually pain is absent in competent hands. If the pain persists it indicates fault in technique or low injection. But discomfort is usual due to the quantity of the sclerosant.

B. Faintness and collapse :

This is usually due to psychological and physical make up of the patient.

C. Rapid cessation of symptoms – within 24 – 48 hrs the bleedings has stopped. But improvement in prolapse is light.

D. The reaction to the Injection in the Rectal wall – with in 2 or 3 days, the areas of injections becomes indurated above the ano rectal ring. Induration is more prominent in 2 to 3 weeks but gradually it fade. The mucosa is adherent to the underlying fibrosed sub mucosa. The induration feels like malignant tumour spreads to sub mucosa. So elicitation of previous H/o Injection in cases of CA Rectum is mandatory.

RUBBER BAND LIGATION (RBL) :

In this study, we selected cases for Rubber band ligation including 1st and 2nd degree haemorrhoids and for individuals, who are otherwise unfit for operative procedures are treated with RBL.

Instruments used

1. Proctoscope
2. Barron's banding apparatus
3. Rubber bands

Technical Details :

Barron's instrument consists of Hollow drum of 11 mm in diameter. Two black rubber bands are placed over the drum by means of a loading cone.

A second drum moves over the outer surface of the first drum and pushes the rubber bands into the desired position. The two drums are mounted on a handle fitted with a trigger device. Holding forceps holds the pile mass into the hollow drum. The trigger is pulled slowly but steadily. As the outer drum moves the rubber

bands pushed to the base of the pile mass. The rubber bands are 2-3 mm in diameter.

Technique of Ligation :

It is an outpatient procedure. No special preparation of the patient (or) Bowel is required. It can be done in left lateral position. (Sim's position).

A protoscope is passed in the patient is asked to chain gently to display the piles. An assistant hold the handle of the proctoscope.

The loaded ligator is taken in the left hand. Sizing forceps taken in the right hand. The forceps passed through the hallow drums and jaws are fastened on the haemorrhoid.

The pile man is drawn into the hollow drum. A check ensures that the Rubber ring will not grip the sensitive anal skin below the dentate line.

By closing the handles of the ligator, the rings pushes off the drum and instantly close on the base of the pile. The resulting nub of strangulated tissue is usually about the size of a small cherry.

The procedure is painless, but it may give mild discomfort. The patient adviced oneday bed rest in the home. The patient is warned about bleeding after one or two weeks of ligation. Patient reviewed after 1 week.

FERGUSEN CLOSED HAEMORRHOIDECTOMY

We have selected the cases with II degree haemorrhoids especially if they possess skin tags and III and IVth degree haemorrhoids. Surgical procedure can be accomplished readily with spinal anaesthesia.

Technique of Ligature and Excision :

The patient is placed in the lithotomy position with the buttocks projecting well beyond the end of the table. The anal region is cleaned and sterile towels and instrument table are arranged.

Application of skin forceps :

The skin component of the main piles are seized with forceps and retracted outwards. This causes the pile mass to protrude out to carrying extent.

Application of mucosa forceps :

The purple anal mucosa is seized and drawn outwards. This pulls the piles well out of the anus and brings into view of the pink rectal mucosa at its upper pole.

A crown which is put in the apex of the pile mass 2-0 chromic catgut and kept as a stay suture.

After traction of the skin and mucosa forceps, a V shaped cut is made in the perianal skin. The point of V being 2.5 to 3 cm. away from the muco-cutaneous junction. The pile mass is separated medial to the edge of the pale internal sphincter. Pedicle is transfixed. The pile mass is cut 2 - 3 mm distal to the ligature.

The mucosa sutured over the race area in a continuous manner.

Similarly, the Right posterior and Right anterior pile masses, are dealt with.

Passage of finger to assess the size of the anal canal :

After the excision & ligation, finger is passed into the anal canal to determine the size and any tightness can be stretched adequately.

To reduce the pile pedicles completely, a dry gauze inserted. After that loose skin edges are trimmed to have better wound healing.

There is no pain immediately after the surgery due to the anaesthesia. As the drug effect wear off pain starts, requiring sedation. Patient allowed to take normal diet in the same evening.

Complications :

1. Haemorrhage
2. Pain
3. Retention of urine
4. Haematoma
5. Wound Infection.

RESULTS OF STUDY

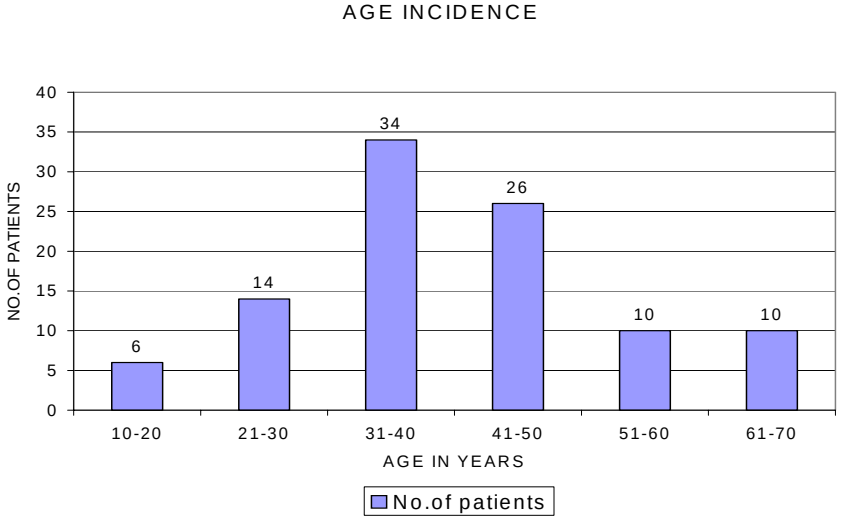
In this study, we have taken 100 cases of haemorrhoids who attended Madurai Medical College Hospital, Madurai.

Age Incidence :

The incidence of haemorrhoids apparently increases with the age. In this study the majority of cases were above 30 years of age.

Age Incidence

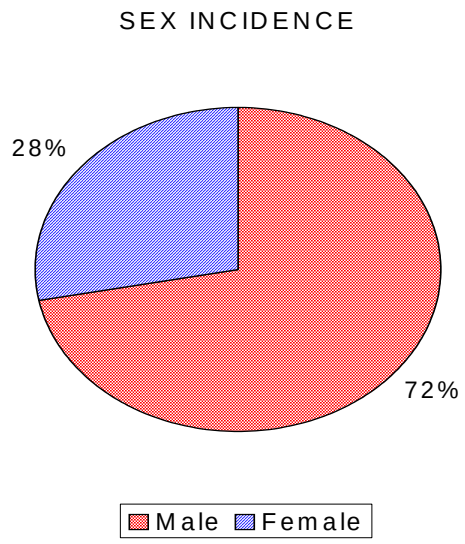
Age in years	No.of patients	Percentage
10-20	6	6
21-30	14	14
31-40	34	34
41-50	26	26
51-60	10	10
61-70	10	10



Sex Incidence

Sex	No.of patients	Percentage
Male	72	72%
Female	28	28%
Total	100	100%

Incidence in males is higher than females



Familial Predisposition :

In this study group, only two patients have positive family history of haemorrhoids. In both cases, father of the patients had treatment for haemorrhoids.

Clinical Presentation :

In our study, the symptoms more prevalent are bleeding and prolapse.

Bleeding :

In this study, the bleeding was one of the main presenting feature in most of the cases. Among 100 cases 66 cases presented with bleeding.

Prolapse :

Among 100 cases, 62 patients had prolapse.

Discharge :

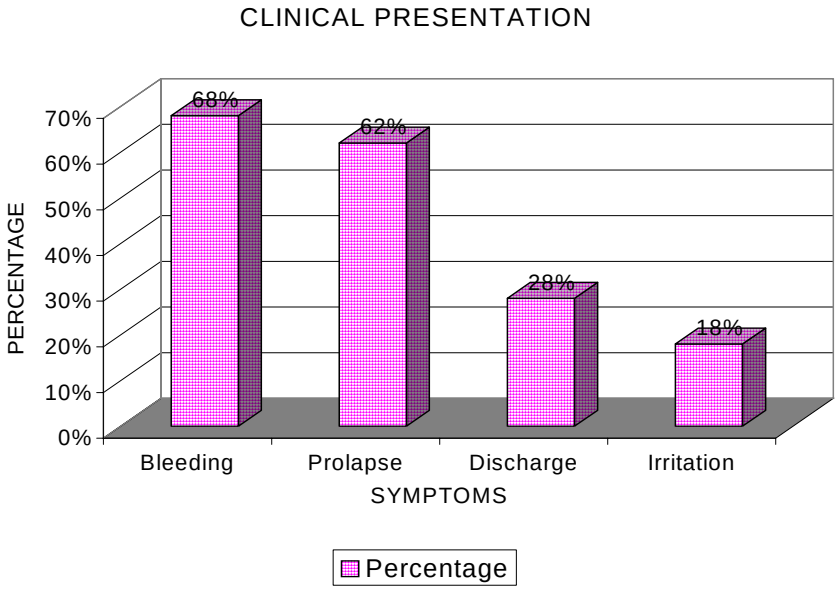
Among the studied group, 28 patients presented with the complaint of discharge.

Anal Irritation :

In this study only 18 cases were had anal irritation.

Clinical Presentation

Symptoms	Percentage
Bleeding	68%
Prolapse	62%
Discharge	28%
Irritation	18%



INTERVENTIONS DONE

Non surgical Management :

Treatment	No.of patients	Cure Rate
Scleropathy	25	92%
Banding	40	90%

Surgical Management : Haemorrhoidectomy

Treatment	No.of patients	Cure Rate
Haemorrhoidectomy	35	97%

Cure rate is more in surgical than in non surgical management.

Injection Treatment : (Sclerotherapy)

In this study among 25 cases 18 cases were first degree haemorrhoids, 7 cases were second degree haemorrhoids. During follow up 3 cases had the need to further injections. Only 2 cases had recurrence. These cases are treated with haemorrhoidectomy.

No.of patients	1st degree	IInd degree	IIIrd degree	Recurrence	Cure Rate
25	18	7	-	2	92%

Rubber Band Ligation :

Among 40 cases treated with rubber band ligation 35 cases were 2nd degree haemorrhoids, 5 cases were 1st degree, 4 cases had recurrence. Cure rate is 90%

No.of patients	1st degree	IInd degree	IIIrd degree	Recurrence	Cure Rate
40	5	35	Nil	4	90%

Surgical Management :

35 patients were treated with closed haemorrhoidectomy. 11 cases are 3rd degree haemorrhoids and 24 cases are 3rd degree haemorrhoids, except one the rest were treated satisfactorily. Cure rate being 97%.

OBSERVATIONS

The study groups :

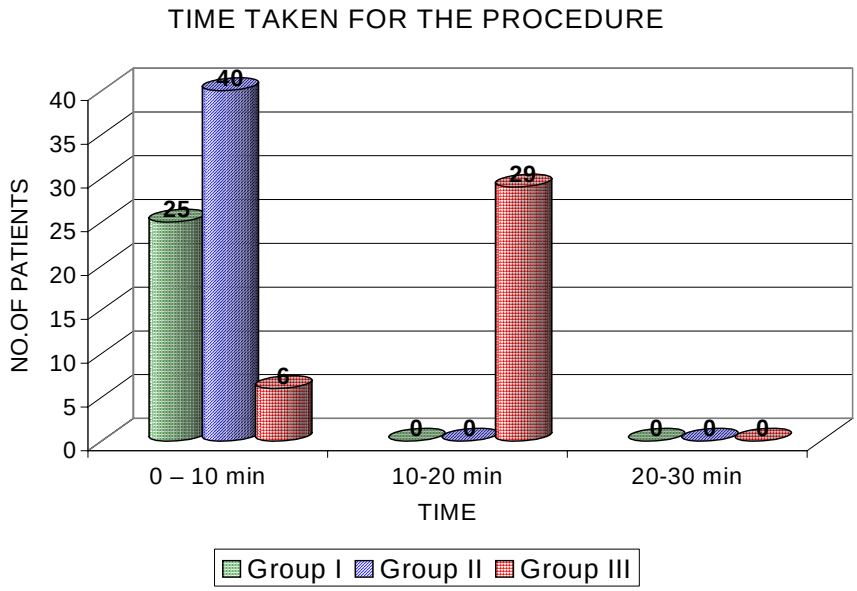
Group I : Sclerotherapy

Group II : Rubber Band ligation

Group III : Haemorrhoidectomy

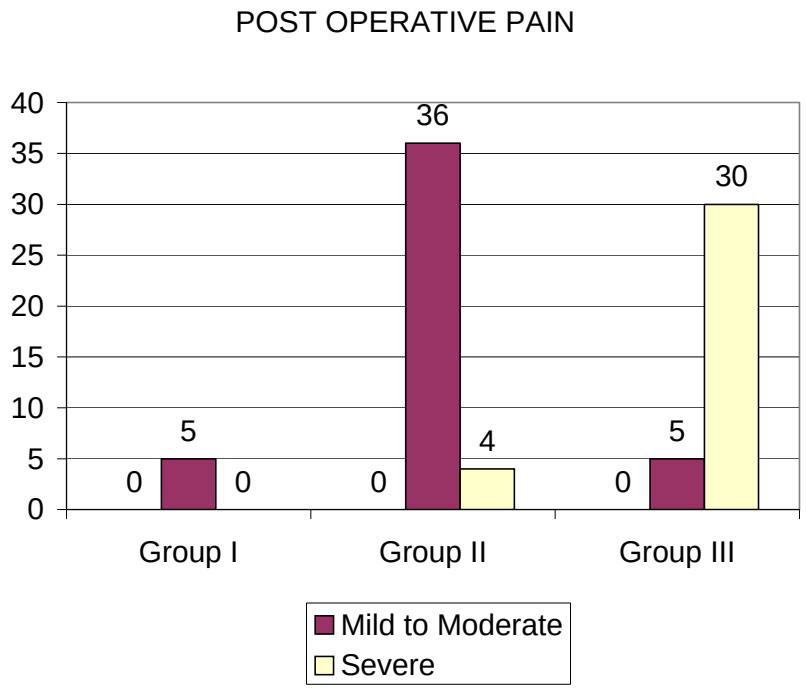
a) Time taken for the procedure – for each pile mas

Time Taken	No.of cases in each study group		
	Group I	Group II	Group III
0 – 10 min	25	40	6
10-20 min	0	0	29
20-30 min	0	0	0
Total cases	25	40	35



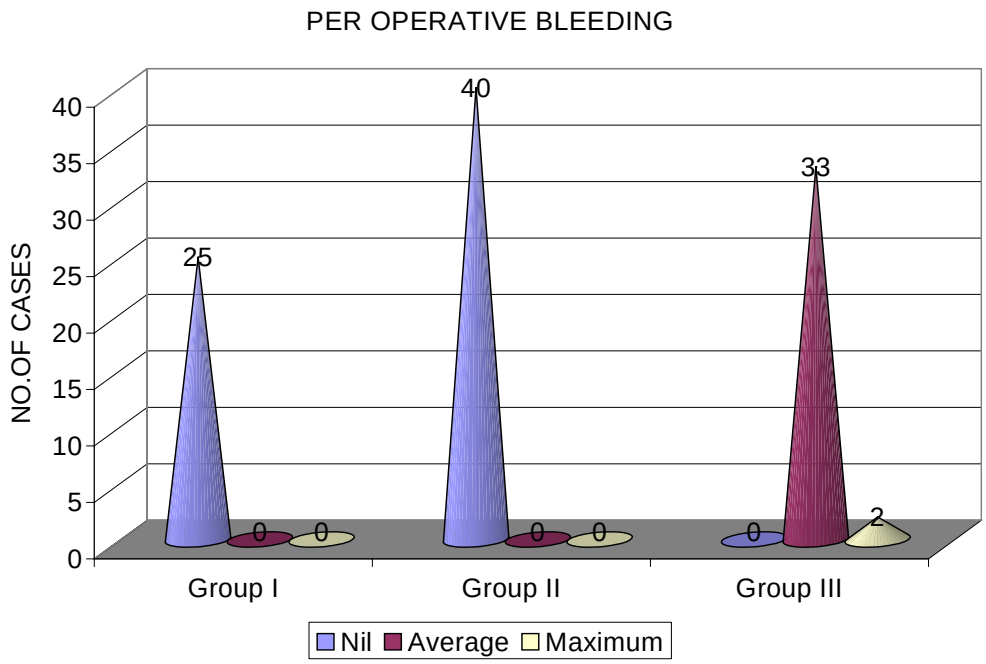
Post operative Pain :

Severity	No.of cases in each study group		
	Group I SCT	Group II RBL	Group III Surgery
Mild to Moderate	5	36	5
Severe	Nil	4	30



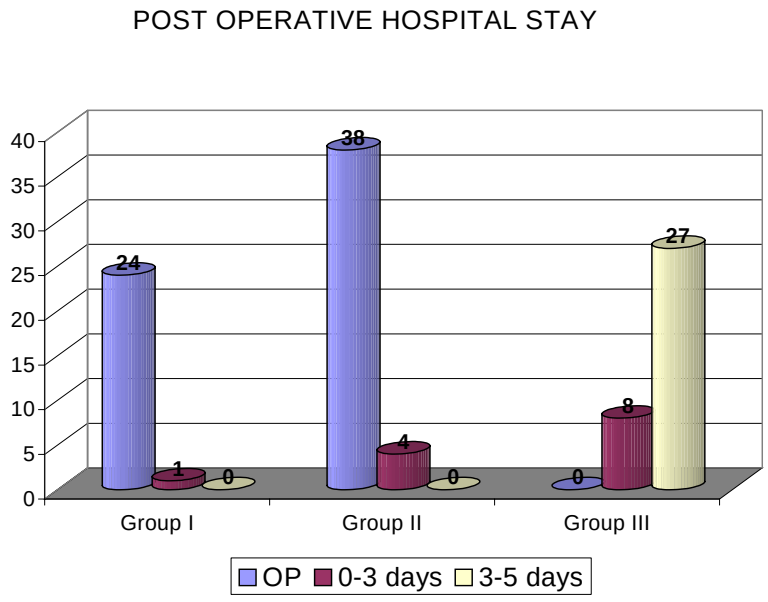
Per Operative Bleeding :

Amount of bleeding	No.of cases in each study group		
	Group I	Group II	Group III
Nil	25	40	0
Average	0	0	33
Maximum	0	0	2



Post operative Hospital Stay :

Days	No.of cases in each study group		
	Group I	Group II	Group III
OP	24	36	0
0-3 days	1	4	8
3-5 days	0	0	27



DISCUSSION

The primary cause for Haemorrhoids are erect posture and valveless haemorrhoidal veins. This is supported by the fact that piles are rare among children and pain relieved by horizontal posture.

The haemorrhoids may be secondary to portal hypertension, pregnancy. Intra abdominal tumors and other colonic pathologies. But in our study we never came across secondary haemorrhoids.

Sex Incidence

Authors	Male	Female
Goligher (1969)	66%	33%
Emin-A-Carapetti (1998)	60%	40%
This study (2007)	72%	28%

In sex incidence, our study coincides with the experience of authors in that male incidence is more than females.

Clinical Presentation :

In different studies, as listed bleeding and prolapse were the cardinal symptoms in haemorrhoids. In this study also we had same results.

Authors	Bleeding	Prolapse	Discharge	Irritation
Clark et al(1969)	62%	70%	34%	24%
U.K. Jain (1989)	96%	75%	6%	17%
Emin-A-Carapett (1998)	70%	68%	28%	26%
This study (2007)	68%	62%	28%	18%

Management :

Non operative techniques :

1. Scelrotherapy :

Authors	Cure Rate	Cure Rate
	First Degree	Second Degree
Milligan (1939/1943)	98.3%	68%
Greca et al (1981)	96%	56%
Chang et al (1981)	92%	62%
This study (2007)	92%	-

According to authors, sclerotherapy was suitable for first degree haemorrhoids and our study also coincides with the results.

In sclerotherapy, we may encounter various complications like,

1. Necrosis and formation of Injection ulcers.

In the evolutionary phase of injection treatment, when very strong solutions and other chemicals were used extensive sloughing sometimes results with 5% phenol. But necrosis is rare. Most patients can tolerate 5 ml at each site without risk of necrosis.

The necrosis leads to produce injection ulcer. This is often entirely symptomless and discovered only during the follow up. It resolves spontaneously. The injection ulcer may produce purulent discharge and mild pyrexia. No local treatment necessary for this condition.

2. Sub-mucosal abscess is a rare complication of the Injection treatment.

3. Haematuria and prostatic abscess may result due to deep injection of (R) anterior pile

4. Stricture formation

   The inflammatory reaction to injection in the rectal wall is some times excessive and may almost completely surround the bowel to form a stricture and encroach the lumen. But this gradually subsides in few weeks without any treatment.

   In our study, we have not come across such complications.

2. Rubber Band Ligation : (RBL)

Authors	Cure Rate
Murie et al (1980)	79%
Stein Berg et al (1975)	89%
Wrobleschi et al (1980)	80%
Greca et al (1981)	64%
Splanazani et al (1997)	91%
This Study (2007)	90%

According to various authors, and this study, Rubber band ligation was suitable for second degree haemorrhoids. The criticism of this method is that it does not remove the skin covered component of the piles. So, it is unsuited for third degree haemorrhoids.

Another objection is that this method may be followed by secondary haemorrhage, which could be alarming and dangerous when occurring to the patient at home.

In this study, we have not encountered with this type of problems. It seems that RBL best suited for second degree haemorrhoids. The 1st haemorrhoids with insufficient tissue for ligator drum best treated with injection therapy. Recurrent cases treated with surgical techniques.

3. Surgical Management – Closed Haemorrhoidectomy

Authors	No.of cases	Period of follow up	Cure Rate
Cornie and Menair (1959)	60	6 years	95%
Soderland (1962)	100	6-7 years	99%
Chang et al (1972)	24	-	100%
Murie et al (1981)	45	1 year	93%
This study 2007	35	6-18 months	97%

According to authors, closed haemorrhoidectomy gives good results in all degree of piles. In this study also gives good results.

A. Pain :

Usually mild to moderate during the first 12-24 hrs. Often the patient will be experienced severe pain, that necessitates sedatives.

B. Retention of Urine :

is another complication. More frequent when low spinal anaesthesia was used. But with GA and caudal, Retention occurs only in 3% cases.

Formation of skin tags :

To avoid this, the lax wound edges should be trimmed to leave flat open wounds. Sometimes, the whole skin-mucosa bridges between two haemorrhoidectomy wounds is slack and redundant and became edematous. This edema eventually subsides and the prominent skin tags settles down to normal or fibrosed to became a permanent skin tag.

In this study, 35 cases were treated with open haemorrhoidectomy. Among 35, except one all are treated satisfactorily.

SUMMARY AND CONCLUSION

The experience in the series of 100 patients with various degrees of haemorrhoids treated at Government Rajaji Hospital, Madurai during the period of May 2005 to May 2007 have been reviewed.

- Male preponderance
- Most of our patients had bleeding and prolapse as presenting features. Familial predisposition only 2%
- Regarding management,

Sclerotherapy for first degree haemorrhoids

- OP procedure
- Less painful
- No anaesthesia required
- No bleeding
- Cheaper procedure
- Cure rate 92%

Banding for second degree haemorrhoids

- Less painful
- No preparation required

- No Anaesthesia
- No bleeding
- Cheaper
- Cure rate 90%

Disadvantages :

- External pile mass and skin tags cannot be dealt with
- Secondary haemorrhage may occur

Surgery – Closed haemorrhoidectomy

Advantages :

- For III & IV degree & recurrent haemorrhoids
- External pile mass and skin tag can be corrected
- Cure rate 97%

Disadvantages :

- Painful
- Anaesthesia required
- Longer duration of stay
- More bleeding

Considering all these non operative techniques like sclero therapy for first degree haemorrhoids and banding for second degree haemorrhoids gave excellent results.

Milligan – Morgan open haemorrhoidectomy ideal choice for third degree and recurrent cases.

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PROFORMA

Name : Age : Sex :

IP No. :

Complaints

Bleeding

Relation to motion

Duration

Pain

Nature

Relation to motion

Prolapse

Bowl habits

Dietry habits

General Examination

Built
Anaemia

Rectal Examination

External pile mass

Prolapsed haemorrhoid

Skin tag

Proctoscopy

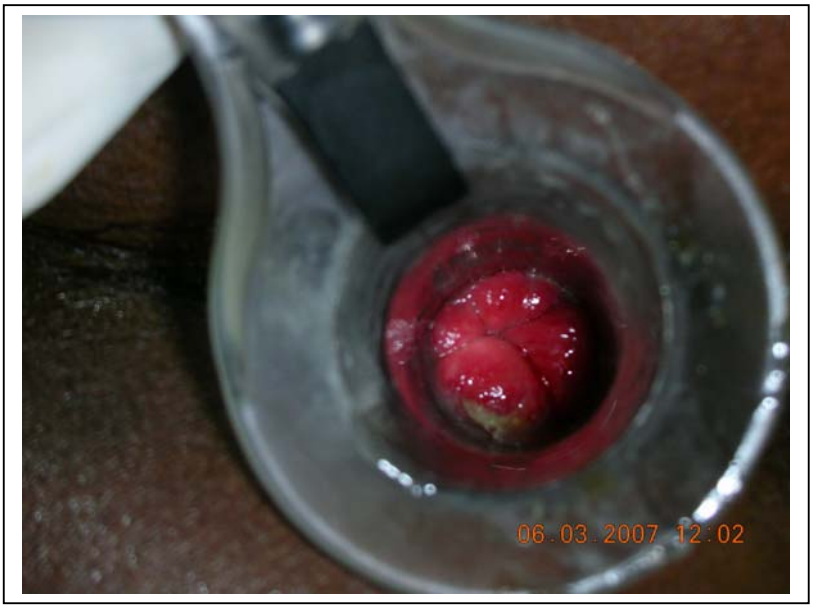
Investigations

Hb %	Blood Urea
Tc	Sugar
DC	Serum creatinine

Sigmoidoscopy

BANDING APPARATUS

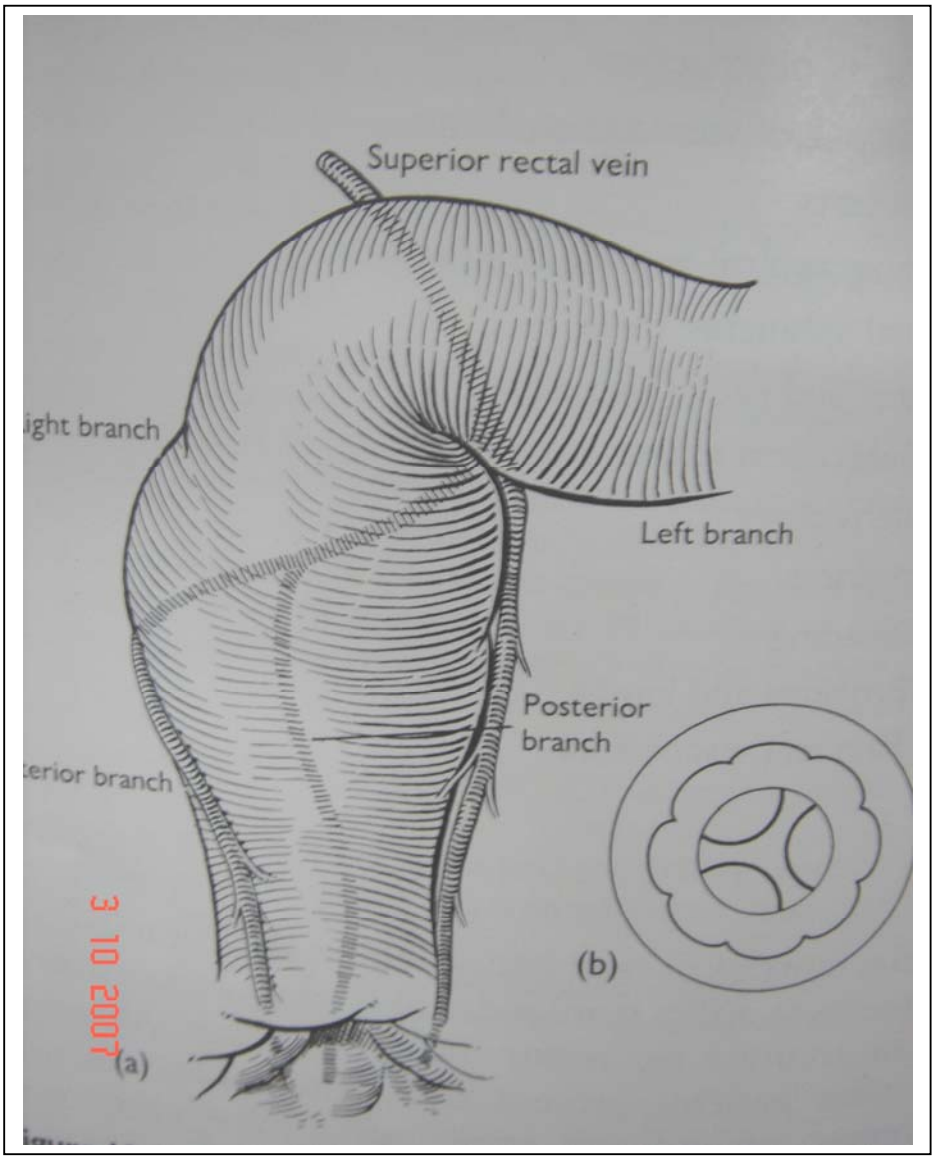
PROCTOSCOPIC VIEW



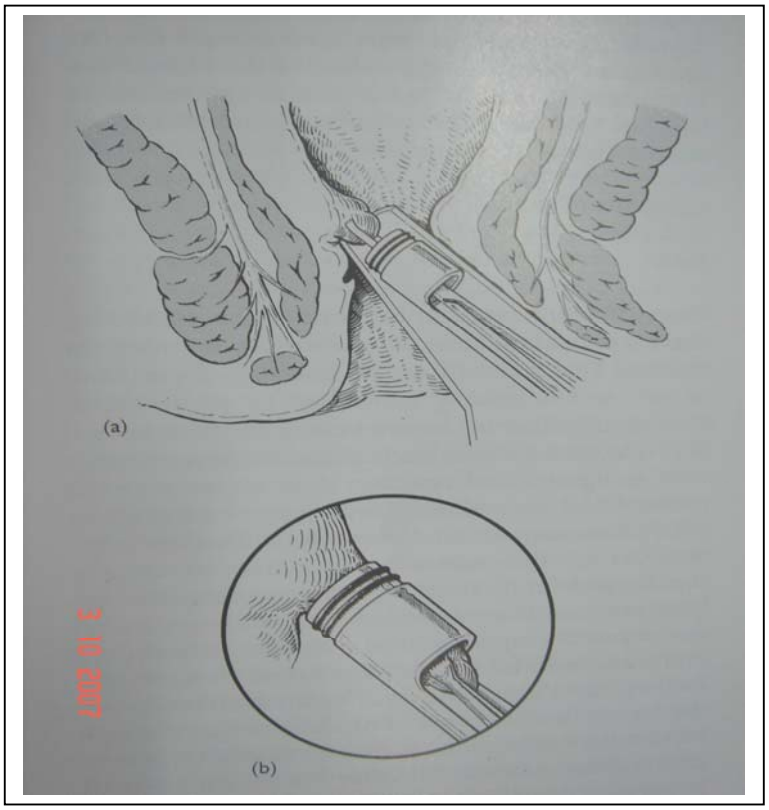
BANDING IN PROGRESS

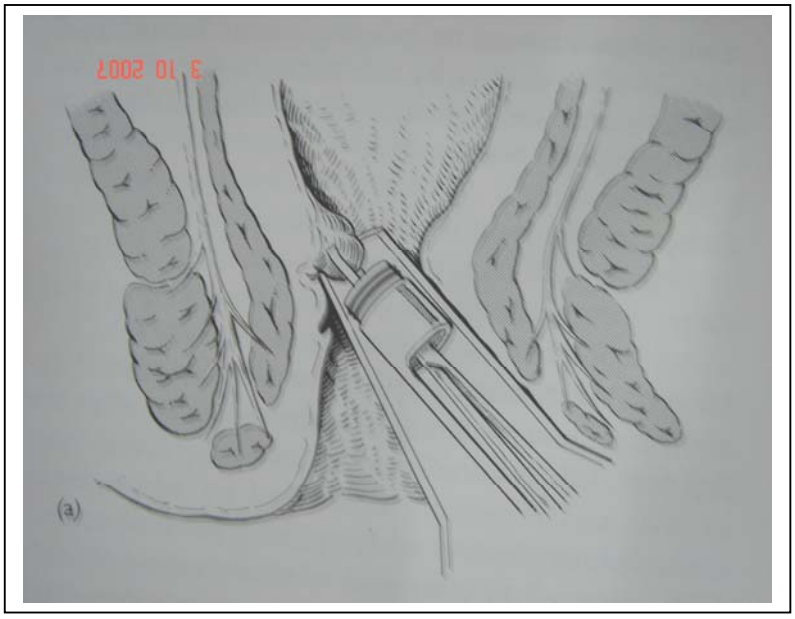
AFTER BANDING

PRIMARY POSITION OF HAEMORRHOIDS DUE TO THE ARTERIAL SUPPLY

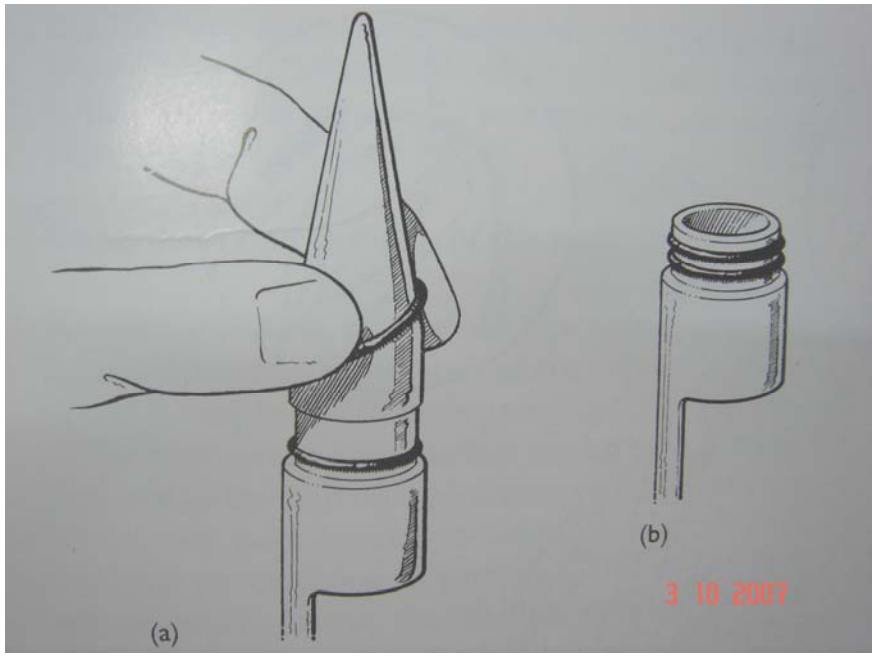


DIAGRAMATTIC REPRESENTATION OF BANDING

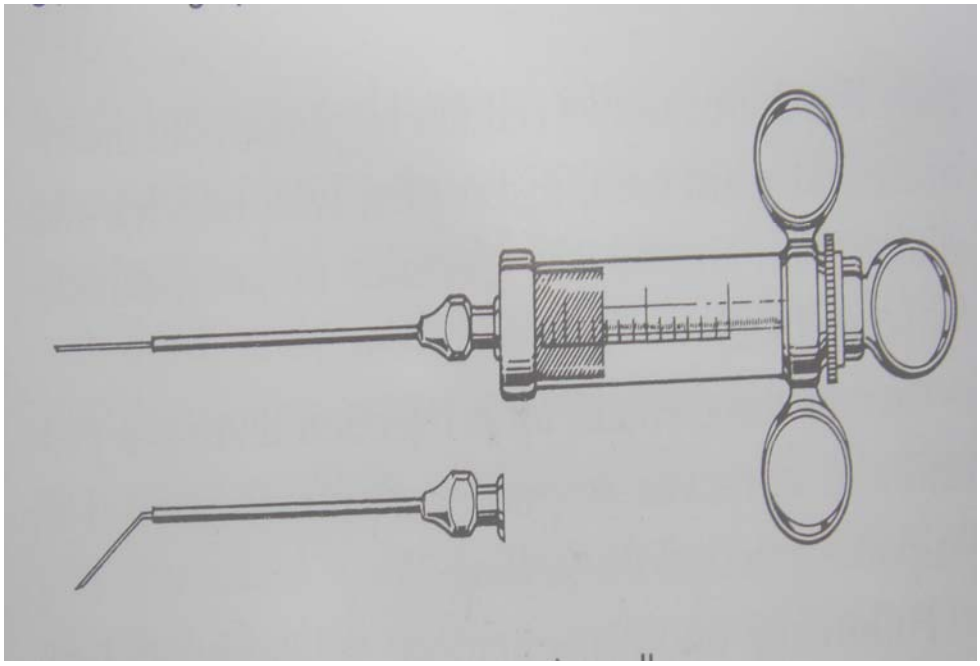




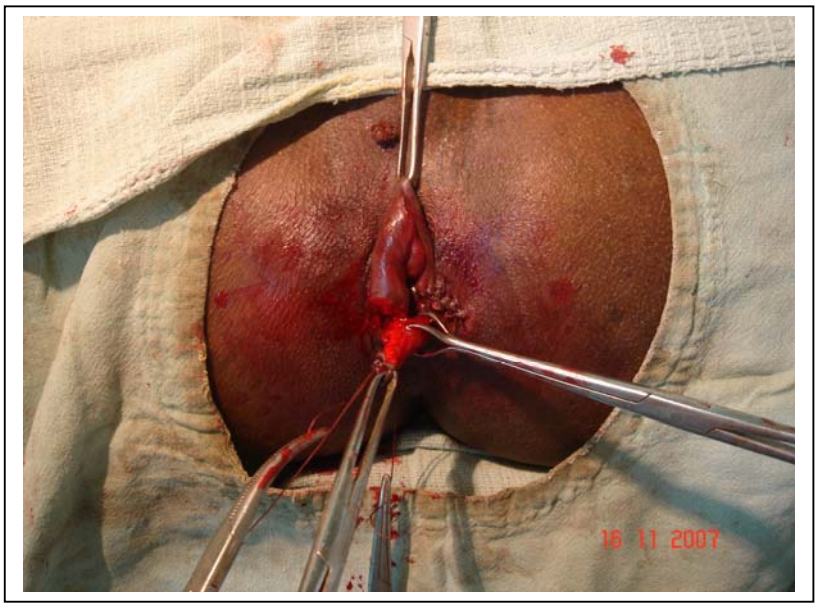
LOADING OF BANDING APPARATUS WITH THE RUBBER BAND



GABRIEL SYRINGE WITH NEEDLE



HAEMORRHOIDECTOMY IN PROGRESS



MASTER CHART

S.No.	Name	Age/Sex	IP No.	Bleeding	Prolapse	Blood change	Irritation	Degree	Treatment given	Re currence	Follow up
1.	Palaniammal	40 / F	160350	√				II	RBL		1 ½ yrs
2.	Pandi	21/F	18139	√	√			II	RBL	√	1 yr
3	Periyasamy	58/M	20150		√	√	√	III	Surgery		1 yr
4	Rajkumar	37/M	25908	√					RBL		6 months
5	Jeya	37/F	27606		√			II	Surgery		9 months
6	Balamurugan	30/M	33141	√				II	RBL		10 months
7	Mariappan	37/M	33043			√		II	Surgery		11 months
8	Ravikanna	42/M	34830	√	√			II	RBL		13 months
9	Sarathbabu	27/M	34885	√				I	RBL		15 months
10	Nagaraj	47/M	41554	√				II	RBL		10 months
11	Seemaisamy	41/M	45079		√			II	Surgery		12 months
12	Ganesan	19/M	43394	√				I	SCL		15 months
13	Pandiaraj	20/M	47080	√		√		II	RBL		6 months
14	Mariammal	40/F	334349	√				I	RBL		1 yr
15	Ayyavu	67/M	49005					II	Surgery		1 yr

16	Vellaiyammal	40/F	52775		√			I	SCL		9 months
17	Paulsamy	52/M	476189	√				II	RBL		15 months
18	Alagu	50/M	492653		√			I	RBL		1 yr
19	Manoharan	54/M	493174	√				II	RBL		10 months
20	Salamon	35/M	493687		√	√		II	RBL		9 months
21	Chinnasamy	47/M	496019		√	√	√	III	Surgery		1 yr
22	Ponnan	60/M	496949	√		√		II	RBL		9 months
23	Rajendran	28/M	496917	√				I	SCL		6 months
24	Bakiaraj	44/M	501257	√		√		II	Surgery		17 months
25	Rajangam	55/M	501611	√				I	SCL		12 months
26	Karthik	55/M	501614		√			II	RBL		7 months
27	Tamilselvan	19/M	6817		√	√	√	III	Surgery		6 months
28	Mookiah	44/M	11687	√				I	RBL	√	1 yr
29	Muthusamy	70/M	12696	√				II	Surgery		5 months
30	Raja	36/M	13373		√			II	RBL		6 months
31	Muthusamy	35/M	14466	√				I	SCL		12 months
32	Govindasamy	65/M	17076		√	√	√	III	Surgery		9 months

33	Ismail	37/M	17115	√	√			II	RBL		12 months
34	Chinnasamy	55/M	20143	√				I	SCL		8 months
35	Sahulhameed	77/M	22089								8 months
36	Mookkammal	36/F	170351		√			II	RBL		7 months
37	Rani	42/F	27606	√				I	SCL		12 months
38	Rathi	37/F	37155		√	√	√	III	Surgery		8 months
39	Lakshmi	48/F	34885	√	√			II	Surgery		18 months
40	Mariammal	52/F	35735	√				I	RBL	√	20 months
41	Kavitha	29/F	463718		√	√	√	III	Surgery		11 months
42	Sudha	36/F	27707	√	√			II	RBL		15 months
43	Ramya	46/F	26607	√				I	SCL		18 months
44	Raaha	52/F	46757		√	√	√	III	Surgery	√	1 ½ yr
45	Vellammal	66/F	36758	√	√	√		II	Surgery		1 ½ yr
46	Saravanan	20/M	459361	√				I	SCL		17 months
47	Subbiah	56/M	461238	√	√			II	RBL		6 months
48	Ramasamy	48/M	461200	√				I	SCL		7 months
49	Muthukumar	22/M	463285	√	√			II	RBL	√	6 months

50	Syed Ibrahim	27/M	403717	√				I	SCL		7 months
51	Rangammal	42/F	160354	√	√			II	RBL		6 months
52	Sonai	21/M	181354		√	√	√	III	Surgery		10 months
53	Chinnasamy	59/M	20250	√	√			II	Surgery		17 months
54	Kumar	39/M	27907	√				I	SCL	√	16 months
55	Sundari	36/F	26707	√	√			II	RBL		8 months
56	Murugan	33/M	33241		√	√	√	III	Surgery		7 months
57	Karuppan	36/M	33143	√				II	RBL		6 months
58	Rajkanna	28/M	38730	√				I	SCL		8 months
59	Sathyaraj	28/M	38753	√	√			II	SCL		7 months
60	Ramnath	47/M	37742		√	√	√	III	Surgery		6 months
61	Govindasamy	42/M	45071	√	√			II	RBL		1 yr
62	Ravi	17/M	43375	√				I	SCL		1 yr
63	Rajapandi	25/M	45372	√				II	RBL		8 months
64	Muniamma	43/F	43325		√	√	√	III	Surgery		7 months
65	Rasappa	65/M	47025	√	√			II	SCL		6 months
66	Karuppayee	38/F	52760	√				I	SCL		7 months

67	Nadigan	51/M	53027	√	√			II	RBL		6 months
68	Sivasamy	54/M	43025		√	√	√	III	Surgery		1 yr
69	Vivek	52/M	43275								6 months
70	Palpandi	32/M	493787	√				II	Surgery		
71	Magesh	42/M	35727		√	√	√	III	Surgery		6 months
72	Kannan	58/M	37277	√				I	SCL		7 months
73	Saravanan	28/M	37207					II	RBL		8 months
74	Kutty	42/M	37253	√	√			III	Surgery		8 months
75	Durai	53/M	50675		√	√	√	II	Surgery		7 months
76	Sivakumar	55/M	50271	√				I	RBL		11 months
77	Selvakumar	20/M	50727	√				II	SCL		1 yr
78	Muthiah	43/M	11678		√			II	RBL		6 months
79	Nallasamy	68/M	12672	√				III	SCL		11 months
80	Muthu	33/M	17253		√	√	√	II	Surgery		10 months
81	Chellamuthu	32/M	14376	√	√			I	RBL		14 months
82	Nachiappan	64/M	17167	√				II	SCL		6 months
83	Abdulla	34/M	17276	√				III	RBL		7 months

84	Ramasamy	53/M	20341		√	√	√	II	Surgery		11 months
85	Mohammed	72/M	22980	√	√			III	SCL		4 months
86	Kannammal	32/F	170153		√	√	√	II	Surgery		6 months
87	Alagammal	40/F	27609	√				II	RBL		7 months
88	Subha	33/F	37551	√	√			III	Surgery		11 months
89	Priya	42/F	34508		√	√	√		Surgery		12 months
90	Binniyammal	51/F	35537		√	√		III	Surgery		6 months
91	Sunitha	26/F	46173	√				II	SCL		12 months
92	Sigappie	42/F	27607		√	√		III	Surgery		9 months
93	Ramayee	42/F	26702	√	√			II	RBL		11 months
94	Rajeswari	51/F	46577	√				II	SCL	√	12 months
95	Vellammal	62/F	36857		√	√		III	Surgery		16 months
96	Saravanan	25/M	45963	√	√			II	RBL		17 months
97	Subbuthai	52/M	46321	√				II	SCL		12 months
98	Katisa	60/F	46752		√	√		III	Surgery		11 months
99	Raman	45/M	47784	√	√			II	RBL		12 months
100	Subbu	60/M	57786		√	√		III	Surgery		11 months